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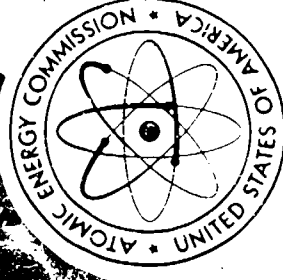
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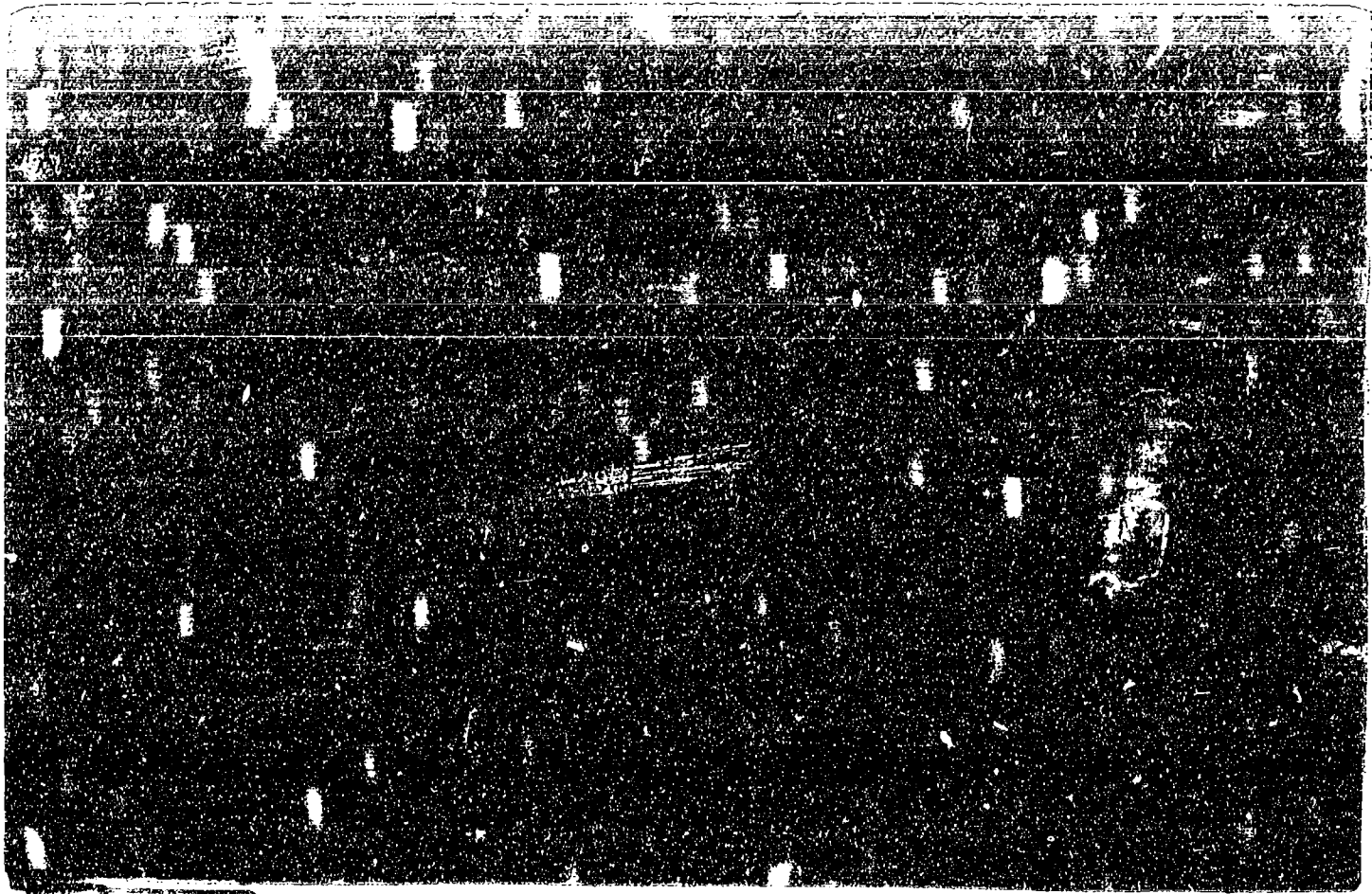
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TECHNICAL INSPECTION REPORT

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U.S.S. BANNER (APA 60)

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ATOMIC ENERGY ACT 1946

US LANNER (APABO)

SECURITY INFORMATION

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 12-1-63



# TECHNICAL INSPECTION REPORT

## OVERALL SUMMARY

### 1. Target Condition After Test

(a) Damage after test: No structural damage, no damage to hull, no damage to machinery.

(b) No damage to structure, no damage to hull, no damage to machinery.

### 2. Structural Damage:

#### HULL

The vessel sustained no damage to the main hull. Superstructure on the starboard side has light superficial damage.

#### MACHINERY

The motor casings of both stacks were moderately dented on both sides, etc.

#### ELECTRICAL

Not observed.

### 3. Other Damage:

#### HULL

Not observed.

#### MACHINERY

An electric driving furnace in a passageway opening into the after cargo space was smashed by blast pressure entering via the cargo hatch opening.

ENCLOSURE

THE BANNER (APASO)

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PROBABLE CAUSE

A fire started by a lightning bolt struck the ship. A number of cables were broken by the fire. A number of cables were broken by the fire. The fire started at the signal bridge and spread to the main deck.

Damage to the ship and its contents.

Damage to the ship and its contents.

NULL

Heat radiation came from approximately 150 degrees north. Heat started and blistered paint on the entire starboard side. A fire started on the main deck. Signal masts were damaged. Damage to the ship and its contents.

MACHINERY

Damage to the ship and its contents.

ELECTRICAL

Exposed paint work was scorched by the blast. A small amount of electrical cable had the paint scorched off the heat.

(a) Fires and explosions.

NULL

A fire was started by heat radiation in the starboard engine room. Damage to the ship and its contents.

Damage to the ship and its contents.

MACHINERY

(b) Not advanced.

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USS BANNER (AP-60)

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PROBABLE CAUSE

A fire started in the main engine room. A number of cables were broken by the fire. The fire started at the signal bridge and spread to the main deck.

(a) Steel

NULL

Heat came from approximately 150 degrees north. Heat started and blistered paint on the entire starboard side. A fire started on the main deck. Signal masts were damaged. Damage to the ship and its contents.

MACHINERY

Not advanced.

ELECTRICAL

A number of lamps were broken by the fire. These were located above the main deck.

(a) Pressure

NULL

The apparent direction of the pressure blast was from approximately 150 degrees relative.

MACHINERY

Blast pressure moderately deformed the outer casings of both stacks, and smashed an electric drilling fountain exposed to the direct effect of the pressure.

ELECTRICAL

There were no effects of pressure noted in electrical equipment.

SECRET

USS BANNER (AP-60)

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(4) Effects resulting to the Alamo Bomb

HULL

None.

MACHINERY

None.

ELECTRICAL

The Alamo Bomb by what was apparently radiant heat ...  
 as the only effect noted as being peculiar to the Alamo Bomb.

12. Results of Test on Target

(5) Effect on machinery, electrical, and ship control.

HULL

None.

MACHINERY

The damage had no effect on the operation of the  
 machinery installation. Ship control was not affected insofar as  
 machinery was concerned.

ELECTRICAL

There was no effect on propulsion and ship control.

(6) Effect on gunnery and fire control.

HULL

None.

SECRET

USS BANNER (APAG0)

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MACHINERY

No comment.

ELECTRICAL

There was no effect on gunnery and fire control.

(c) Effect on watertight integrity and stability.

HULL

The watertight integrity and stability of the vessel  
 were not affected by the test.

MACHINERY

No comment.

ELECTRICAL

There was no effect on watertight integrity and  
 stability.

(d) Effect on personnel and habitability.

HULL

Some injury to personnel would have probably re-  
 sulted from the blast pressure or from the cargo hatch covers being  
 blown into the holds. Habitability was negligibly affected.

MACHINERY

The test would have had no effect on personnel or  
 habitability insofar as machinery is concerned.

ELECTRICAL

Electrical damage would have had no effect on the  
 personnel nor on the habitability of the vessel.

SECRET

USS BANNER (APAG0)

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(e) Effect on fighting efficiency.

HULL

The blast pressure did not impair either the hull strength or its seaworthiness. The superficial damage done to the superstructure did not affect the operability of equipment.

MACHINERY

None, inside the machinery is concerned.

ELECTRICAL

Electrical damage would have had no effect on the operating efficiency of the vessel.

IV. Summary of Observers' Impressions and Conclusions.

Damage is superficial. While some casualties might have been sustained by personnel stationed topside, the vessel would have been able to proceed on its mission.

MACHINERY

The BANNER was outside the effective range of the explosion in test A.

ELECTRICAL

The vessel suffered moderate blast in the weather deck and moderate shock to the superstructure areas. There was sufficient heat to ignite inflammable material.

V. Preliminary Recommendations.

HULL

No comment.

MACHINERY

Page 10 of 75 Pages

USS BANNER (APA60)

MACHINERY

None.

ELECTRICAL

Light weight salient equipment should have the exposed area reduced as much as possible, or should be strengthened. Combustible material should not be exposed topside. High shock lamps should be used throughout the vessel.

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USS BANNER (APA60)

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TECHNICAL INSPECTION REPORT

SECTION I - HULL

GENERAL SUMMARY OF HULL DAMAGE

I. Target Condition After Test.

(a) Drafts after test, list, general areas of flooding sources.

list. There was no flooding, hence no change in drafts or list.

(b) Structural Damage.

The vessel sustained no damage to the main hull Superstructure on the starboard side has light superficial damage.

(c) Other damage.

Not observed.

II. Forces Evidenced and Effects Noted.

(a) Heat.

Heat radiation came from approximately 150 degrees relative. Heat charred and blistered paint on the entire starboard side and caused a fire on the signal bridge. Signal halyards were burned. Exposed cordage was scorched.

(b) Fires and Explosions.

A fire was started by heat radiation in the starboard flagbag and damaged adjacent equipment.

There were no explosions.

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USS BANNER (AP460)

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(c) Shock.

Shock came from approximately 150 degrees relative. About seven light bulbs in topside structure, starboard were broken. Bulbs in shock mounts were undisturbed.

(c) Pressure.

The apparent direction of the pressure blast was from approximately 165 degrees relative.

(c) Effects peculiar to the Atom Bomb.

None.

III. Effects of Damage.

(a) Effect on machinery, electrical, and ship control.

None.

(a) Effect on gunnery and fire control.

None.

(c) Effect on watertight integrity and stability.

The watertight integrity and stability of the vessel were not affected by the test.

(c) Effect on personnel and habitability.

Some injury to personnel would have probably resulted from the blast pressure or from the cargo hatch covers being blown into the holds. Habitability was negligibly affected.

(c) Effect on fighting efficiency.

The blast pressure did not impair either the hull strength or its seaworthiness. The superficial damage done to the superstructure did not affect the operability of equipment.

U.S. BANNER (AP-180)

IV. Summary of Observations.

Damage to superstructure, topside structure, and hull might have been sustained by the vessel. The vessel would have been able to proceed on its own power.

No comment.

VI. Instructions for loading the vessel at present are following:

Fuel oil 14,000 tons  
Diesel oil 1,000 tons  
Ammunition 100 tons  
Potable and reserve feed water 1,000 tons  
Salt water ballast 1,000 tons

Details of the arrival quantities of the vessel are included in Report 3, Stability Inspection Report, and Report 4, for Tests and Observations by Ship's Force. The Director of Ship's Material. This report is available for inspection at the Bureau of Ships Crossroads.

SECRET

## EXTENSIVE DESTRUCTION OF HULL DAMAGE

### Damage Description of Hull Damage

The vessel sustained light superficial damage to the starboard side of the superstructure. Paint is generally charred and blistered throughout the starboard side of the vessel. General views of the vessel are shown on pages 26 to 47, inclusive.

#### A. Superstructure.

Stackheads (7.5 pound) facing to starboard and all base light tops and damage consisting of one to two inch dishing. The forward lightest plate at frame 52, starboard was bent slightly forward and broken the welds connecting the angle bar stiffeners to the superstructure deck. The after stack has a maximum dishing of ten inches at the starboard after face and six inches on the port side. (Photo. 1733-4, page 48). The forward stack has lighter damage. Weather decks in the general area of the superstructure are sprung yet operable. An exposed 17.5 pound plate flat surface of a tub mounted a speakers position on the starboard signal bridge is dished in. (Photo. 1733-4, page 48). Gun tubs on 10 pound plate are dished in. (Photo. 1733-4, page 48).

A fire started by heat radiation destroyed the starboard lighting, searchlights, portable announcing equipment, and various electrical cables and junction boxes on the starboard signal bridge. (Photo. 1733-1, page 45). Signal lanterns were burned, exposed electric lines were scorched.

Paint scorching and blistering although wide spread, is confined to deck. There was no blistering of deck plates. Black paint on canvas wrapping of ladder stanchion and rails at frame 87, starboard, upper deck, was almost completely scorched off while similar material nearby was undamaged.

#### C. Turrets, Guns, and Directors.

No damage.

#### D. Torpedo Mounts, Depth Charge Tray.

Not applicable.

USS BANNER (AP-60)

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### 2. Weather Deck.

Damage sustained on the weather deck was principally restricted to the padding which covers the bulkhead, which caused the bulk covers to deflect downwards sufficiently to allow paint their supports. None of the covers are bent. The padding of the bulkhead is installed in the bulkhead and is a white material and was damaged as page 51.

#### F. Exterior Hull.

No damage.

#### G. Interior Compartments (Below W.L.).

Upper deck bulkhead covers fell into the hold, and damaged covers at lower levels (Photos 1812-1, 1812-2, 1812-3, 1812-4, 1812-5, 1812-6, 1812-7, 1812-8, 1812-9, 1812-10, 1812-11, 1812-12, 1812-13, 1812-14, 1812-15, 1812-16, 1812-17, 1812-18, 1812-19, 1812-20, 1812-21, 1812-22, 1812-23, 1812-24, 1812-25, 1812-26, 1812-27, 1812-28, 1812-29, 1812-30, 1812-31, 1812-32, 1812-33, 1812-34, 1812-35, 1812-36, 1812-37, 1812-38, 1812-39, 1812-40, 1812-41, 1812-42, 1812-43, 1812-44, 1812-45, 1812-46, 1812-47, 1812-48, 1812-49, 1812-50, 1812-51, 1812-52, 1812-53, 1812-54, 1812-55, 1812-56, 1812-57, 1812-58, 1812-59, 1812-60, 1812-61, 1812-62, 1812-63, 1812-64, 1812-65, 1812-66, 1812-67, 1812-68, 1812-69, 1812-70, 1812-71, 1812-72, 1812-73, 1812-74, 1812-75, 1812-76, 1812-77, 1812-78, 1812-79, 1812-80, 1812-81, 1812-82, 1812-83, 1812-84, 1812-85, 1812-86, 1812-87, 1812-88, 1812-89, 1812-90, 1812-91, 1812-92, 1812-93, 1812-94, 1812-95, 1812-96, 1812-97, 1812-98, 1812-99, 1812-100).

In the after hold, main deck, starboard, a small metal light fixture was blown apart.

#### H. Armor Deck and Miscellaneous Areas.

No damage.

#### I. Interior Compartments (Below W.L.).

No damage.

#### J. Underwater Hull.

No damage.

SECRET

USS BANNER (AP-60)

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1. **Physical Condition After Tests.**  
 The physical condition of the cargo was examined after the tests. The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

2. **Pressure.**  
 A large amount of pressure was applied to the cargo. The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

3. **Explosion.**  
 No explosion was observed. The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

4. **Fire.**  
 No fire was observed. The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

5. **Examination.**  
 The cargo was examined after the tests. The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

6. **Acceleration.**  
 The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

7. **Strength.**  
 The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

8. **Shock.**  
 The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

SECRET  
 USS BANNER (APASO)  
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8. **Shock.**  
 The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

9. **Pressure.**  
 The cargo was found to be in good condition and no damage was observed. The cargo was found to be in good condition and no damage was observed.

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 USS BANNER (APASO)  
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(b) Effects immediately prior to the explosion.

None.

(c) Effects of Damage.

(1) Effect on machinery and ship control.

The damage had no effect on the operation of the machinery installation. Ship control was not affected insofar as machinery was concerned.

(2) Effect on gunnery and fire control.

No comment.

(3) Effect on water-tight integrity and stability.

No comment.

(4) Effect on personnel and habitability.

The test would have had no effect on personnel or habitability insofar as machinery is concerned.

(5) Total effect on fighting capability.

None, insofar as machinery is concerned.

IV. General Summary.

The BANNER was capable of effective range of the explosion in Test A.

V. Preliminary Recommendations.

None.

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U.S. BANNER (APAC)

# DETAILED DESCRIPTION OF MACHINERY DAMAGE

## A. General Description of Machinery Damage.

(a) Overall condition.

The outer casings of both units were severely dented. This does not impair operation. One electric driving shaft, main deck, frame 185 amidships, was fractured by the shock pressure entering via the cargo hatch opening. Consequently, the operation of the machinery was not changed by Test A.

(b) Areas of major damage.

None.

(c) Primary cause of damage.

Not applicable.

(d) Effect of target test on overall condition of machinery plant.

The test had no effect on the overall condition of the machinery plant. Normal operation was resumed immediately after the test. All machinery has been operated since Test A and functioned normally.

## B. BOILERS.

1. The boilers were not damaged by Test A. Both boilers have been steamed since the test, and performed normally.

2. Boiler #2 was left under hydrostatic pressure of 800 lbs./sq. in. when the ship was abandoned at 1145 June 59. Upon return of the crew at 1500 July 2 a pressure of 10 lbs./sq. in. remained.

3. Boiler #1 was left under steam pressure of 450 lbs./sq. in. when the ship was abandoned. No pressure remained when the crew returned.

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U.S. BANNER (APAC)



The three engines of both stacks were moderately loaded on both after-test. The test did not affect operation (see photos 2001-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000).

# C. Blowers

Under test. All blowers were operated under test A.

# D. Fuel Oil Equipment

Under test. All equipment was inspected and operated under service conditions.

# E. Boiler Feedwater Equipment

Under test. All equipment was inspected and operated under service conditions.

# F. Main Propulsion Machinery

Under test. Turbo-generator No. 1 was operated as required to maintain voltage under test A. Visual inspection of turbo-generator No. 2 revealed no damage.

# G. Reduction Gears

Not applicable.

# H. Shafting and Bearings

Under test. All shafting and bearings were tested with the engine running.

# I. Distilling Plant

Under test. All equipment was inspected and operated under service conditions after test A.

# J. Refrigeration Plant

Under test. All equipment was inspected and operated under service conditions after test A.

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USS BARNIER (AP-86)

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# K. Condensers and Air Ejectors

Under test. The condensers were inspected and operated under service conditions after test A and maintained a vacuum of 28 in. Hg.

The injection and condenser tanks were inspected and main and auxiliary condensers were left open during the test.

# L. Pumps

Under test. All pumps were operated under test A at rated pressure after test A.

# M. Auxiliary Generators (Turbines and Generators)

Under test. All ship's service turbo generators (G) were satisfactorily operated under test after test A.

# N. Propellers

Under test. The distilling plant was inspected from the water surface. The port propeller was not turned. The propellers were checked while the main engines were in operation.

# O. Distilling Plant

Under test. The distilling plant has been in operation since test A with no change in the quantity or quality of water distilled.

# P. Refrigeration Plant

Under test. Two cold boxes were inspected before test A. Their contents were not changed by the test.

The remainder of the refrigeration plant has been in operation since test A, and functions normally.

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USS BARNIER (AP-86)

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W. *Miscellaneous.*

Laundry, galley, and machine shop equipment operated satisfactorily after Test A.

[illegible]

One electric drinking fountain, main deck, frame 135, amidships, was smashed by effect of blast which came down the cargo hatch opening.

Sanjay Kumar

undamaged. The gasoline engine and all four  
wheels have been repaired. State Test A. Operation was

Donat Allen (McClintock)

damages. The owners have been operated  
and a total loss of \$100,000.

~~CONFIDENTIAL~~ A.P. Plot

Underway, the air compressor operated satisfactorily at rated pressure and Test A.

SECRET

Underway. The diesel generator and the two  
gasoline pumps were operated independently at rated load after

100

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## THESIS

USS BALTIMORE (APAGC)

## TECHNICAL INSPECTION REPORT

### SECTION II - ELECTRICAL

#### GENERAL SUMMARY OF ELECTRICAL DAMAGE

##### I. Target Condition After Test.

- (a) Drafts after test; list; general areas of flooding, sources.

Drafts and lists were not observed. There was no flooding.

- (b) Structural damage.

Not observed.

- (c) Other damage.

12" searchlights were damaged by blast. A number of lamps were broken by shock. A small amount of cable was scorched by blast heat. The P.A.B. amplifier on the signal bridge was destroyed by fire.

##### II. Forces Evidenced and Effects Noted.

- (a) Heat.

Exposed paint work was scorched by the blast heat. A small amount of electrical cable had the surface scorched by the heat.

- (b) Fires and explosions.

A fire occurred in the starboard flag bag on the signal bridge. There were no explosions.

SECRET

USS BANNER (APA60)

(c) Shock.

A number of lamps were broken by shock. Most of these were located above the main deck.

(d) Pressure.

There were no effects of pressure noted in electrical equipment.

(e) Any effects apparently peculiar to the atom bomb.

The scorching by what was apparently radiant heat is the only effect noted as being peculiar to the atom bomb.

II. Effects of Damage.

(a) Effect on propulsion and ship control.

There was no effect on propulsion and ship control.

(b) Effect on gunnery and fire control.

There was no effect on gunnery and fire control.

(c) Effect on water-tight integrity and stability.

There was no effect on water-tight integrity and stability.

(d) Effect on personnel and habitability.

Electrical damage would have had no effect on the personnel nor on the habitability of the vessel.

(e) Total effect on fighting efficiency.

Electrical damage would have had no effect on the fighting efficiency of the vessel.

SECRET

USS BANNER (APA50)

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IV. General Summary of Observations, Impressions, and Conclusions.

The vessel suffered no damage to the weather areas and moderate shock to the superstructure areas. There was sufficient heat to ignite inflammable material.

V. Any Preliminary General or Specific Recommendations of the Inspecting Group.

Lightweight galvanized steel should have its exposed area reduced as much as possible. Combustible material should not be exposed to the shock. The shock should be used throughout the vessel.

SECRET

USS BANNER (APA50)

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## DETAILED DESCRIPTION OF ELECTRICAL DAMAGE

### General Description of Electrical Damage

#### (a) Overall condition.

Good.

#### (b) Areas of major damage.

No major damage, superstructure and weather vane suffered slight damage.

#### (c) Primary causes of damage in each area of major damage.

Fire, blast, and shock.

#### (d) Effect of target test on overall operation of electric plant.

Ship's service generator plant - no effect.

Engine and boiler auxiliaries - no effect.

Electric propulsion - no effect.

Communications - Fire on the signal bridge destroyed one main powered telephone handset and four (4) jackbox cables.

Fire control circuits - no effect.

Ventilation - no effect.

Lighting - about seventy (70) bulbs were broken on main deck and below.

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USS BANNER (AP-60)

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#### (e) Types of equipment most affected.

1. Substancards and cables - gear - no effect.

2. Rotating machinery - no effect.

3. Motor controllers - no effect.

4. Cables and supports - no effect, except for a very small amount of lightly scorched cable.

5. Wiring equipment - a small number of changes burned on the signal bridge.

6. Lamps - about seventy (70) standard and rough service lamps were broken by shock.

#### B. Electric Propulsion Rotating Equipment.

Propulsion motors, generators and others showed no damage on inspection after the test. During deck trials, motors and alternators were operated in all combinations.

#### C. Electric Propulsion Control Equipment.

Inspection and a deck trial revealed no damage in the control equipment.

#### D. Generators - Ships Service.

Machines showed no damage on inspection and operated satisfactorily.

#### E. Generators - Emergency.

The Diesel emergency generator was used to supply power upon the return of the ship's force to the vessel after the test. No damage was apparent.

SECRET

USS BANNER (AP-60)

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F. Switchboards, Distribution and Transfer Panels.

All switchboards were examined and energized. All circuits and from the boards were given insulation resistance tests. No change or abnormal condition was found.

G. Wiring, Wiring Equipment and Wireways.

1. Rubber covered cables, when exposed in locations at which the surrounding paint work was blistered, showed evidence of weather cracking although cable was still serviceable. Armor cables in the same location showed no heat damage.

2. Rubber watertight seals for pushbuttons showed the same cracking as the rubber covered cable when exposed to the sun's heat.

3. At frame 110, main deck starboard, a sheet metal bulkhead collapsed, shearing two lighting cables, running from the overhead down the bulkhead. At the first bulkhead strip the break occurred. This damage was obviously not due to faulty electrical design.

H. Transformers.

Inspection and normal tests revealed no damage in any transformers. All transformers are located well away from oil beam areas.

I. Submarine Propelling Batteries.

This item does not apply to the vessel.

J. Portable Batteries.

No portable battery was damaged in any way. No battery gave any indication of having shorted. The emergency Diesel starting battery functioned properly on return of the ship's force following the test.

SECRET

USS BANNER (APA39)

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K. Motors, Motor Generator Sets and Motor Generator Sets.

No damage was found to any motor, motor controller or motor generator. All units were checked and operated satisfactorily.

L. Lighting Equipment.

1. About seventy (70) standard and searchlight lamps were broken throughout the ship. Most of the broken lamps on main deck and above, although a number came from the quarters on the second deck.

2. No lighting fixtures or wiring were damaged by the blast.

3. A Crouse-Hinds 500 W. Type AOB-44 Cal. No. 42740X, cargo flood light had front glass, bulb and mirror broken, and one point of the three point mounting broken. The light was broadside to the blast.

M. Searchlights.

1. Two (2) 24" signal searchlights above the signal bridge, port and starboard on the forward stack, were undamaged. These lights were of the latest welded steel construction.

2. Two (2) 12" signal searchlights were mounted on the wings of the signal bridge. Both lights were well exposed to the blast. The starboard light had the lamp broken. The port light was mounted on the hard rail which collapsed, allowing the light to fall against the adjacent blast grange cover. The port light, front door glass, lamp and lamp base were broken; and a similar handle jammed so as to be inoperable. The damage is not a fault of lamp design but of mounting.

SECRET

USS BANNER (APA39)

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**Emergency Equipment**

No damage was noted in the Emergency System.

**Fire Control System**

No damage was noted in any fire control equipment. The system was operated properly and all repeaters were tested and found satisfactory.

**Alarm System**

Two (2) bell alarm circuits were tested and found satisfactory. The system was operated properly and all repeaters were tested and found satisfactory.

Two (2) bell alarm circuits were tested and found satisfactory. The system was operated properly and all repeaters were tested and found satisfactory.

**Ship's Service Telegraph**

The ship's service telegraph is the only one in the vessel.

**Emergency System**

The emergency system is the only one in the vessel.

The emergency system is the only one in the vessel. The system was operated properly and all repeaters were tested and found satisfactory.

The emergency system is the only one in the vessel. The system was operated properly and all repeaters were tested and found satisfactory.

SECRET

USS BANNER (APAGO)

**Telegraphs**

No damage was noted in any telegraph equipment.

**Indicating System**

Only one (1) indicating system was tested and found satisfactory. The "Edwards" fire alarm annunciator, Div. 6827, was tested and found satisfactory. The system was operated properly and all repeaters were tested and found satisfactory. It is believed that the breakage was caused by the dislodging of a jury-rigged metal shield, installed to prevent damage from showing during darkened ship operation. This shield was not a part of the original design. It was noted that the holes in the shield itself were small and that any misalignment of tubes would result in contact with the panel and danger from breakage due to vibration or shock. The panel was mounted on the forward port wheel house bulkhead.

**I.C. and A.C.O. Switchboards**

The combined I.C. and A.C.O. switchboard was inspected. No damage was found and the board operated satisfactorily.

**F.C. Switchboards**

This item does not apply to the vessel.

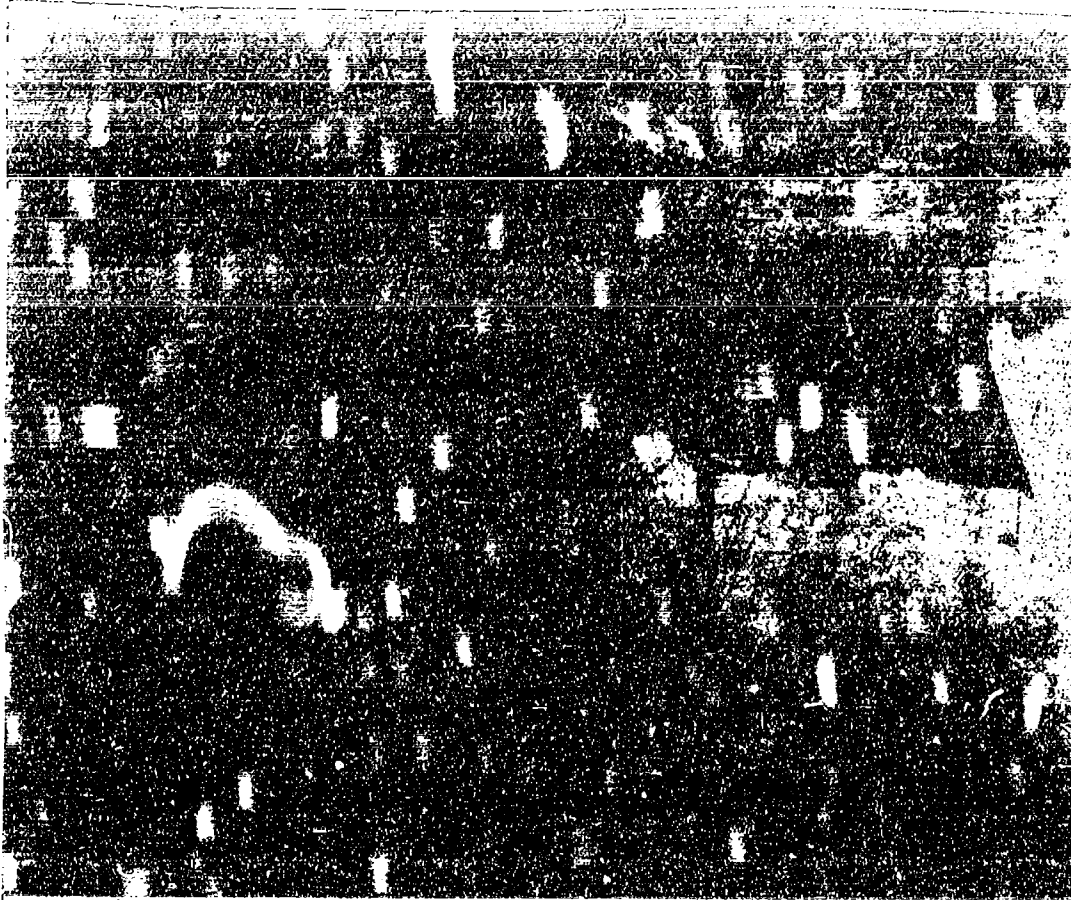
SECRET

USS BANNER (APAGO)

SECTION IV

PHOTOGRAPHS

TEST ABLE



USS BANNER (APA60)

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BA-CR-198-158-36. View from port bow before Test A.

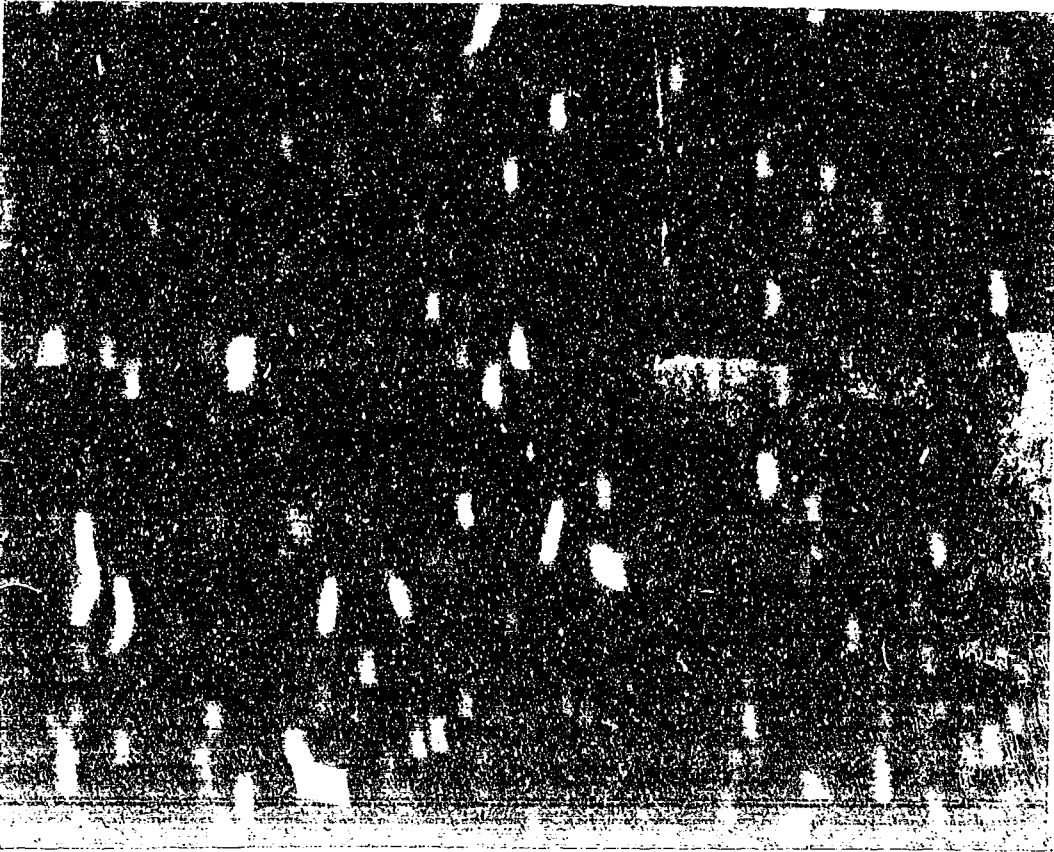
SECRET

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USS BANNER (APA60)

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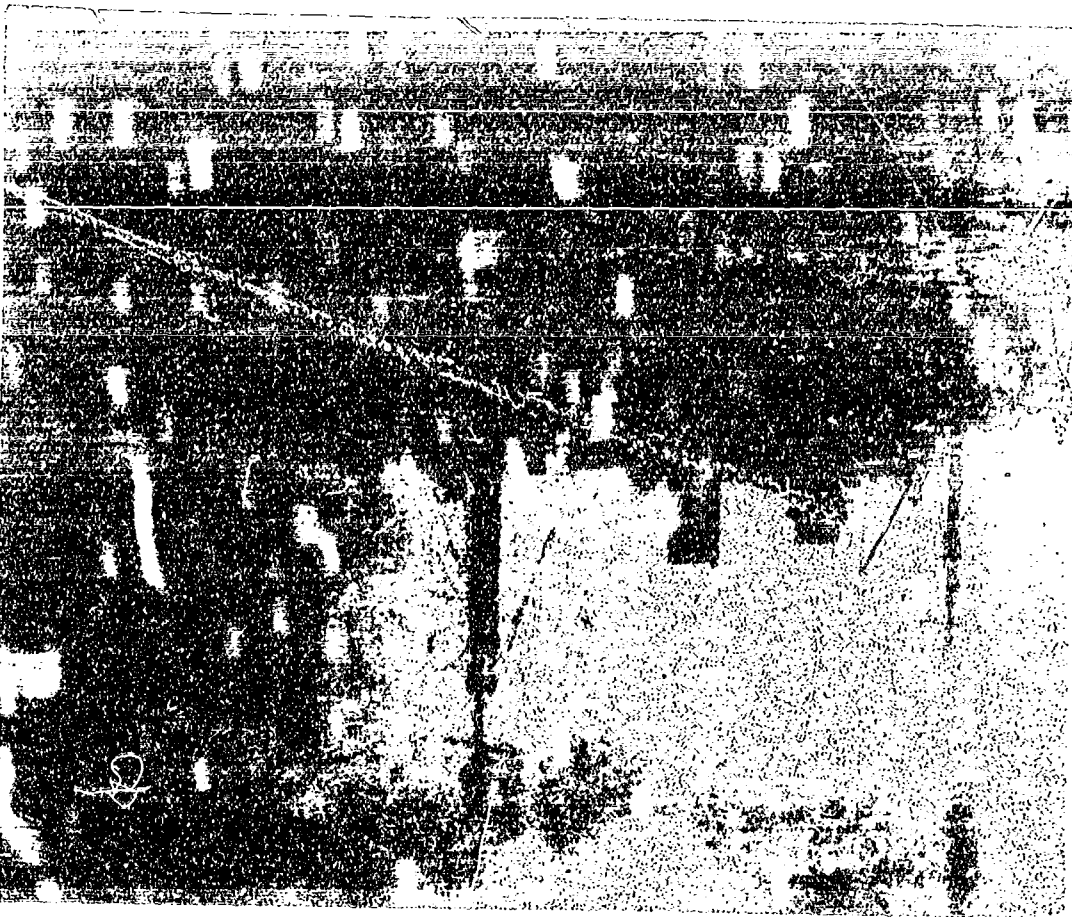
AA-CR-227-57-84: View from off port beam after Test A.

SECRET

USS BANNER (APA60)

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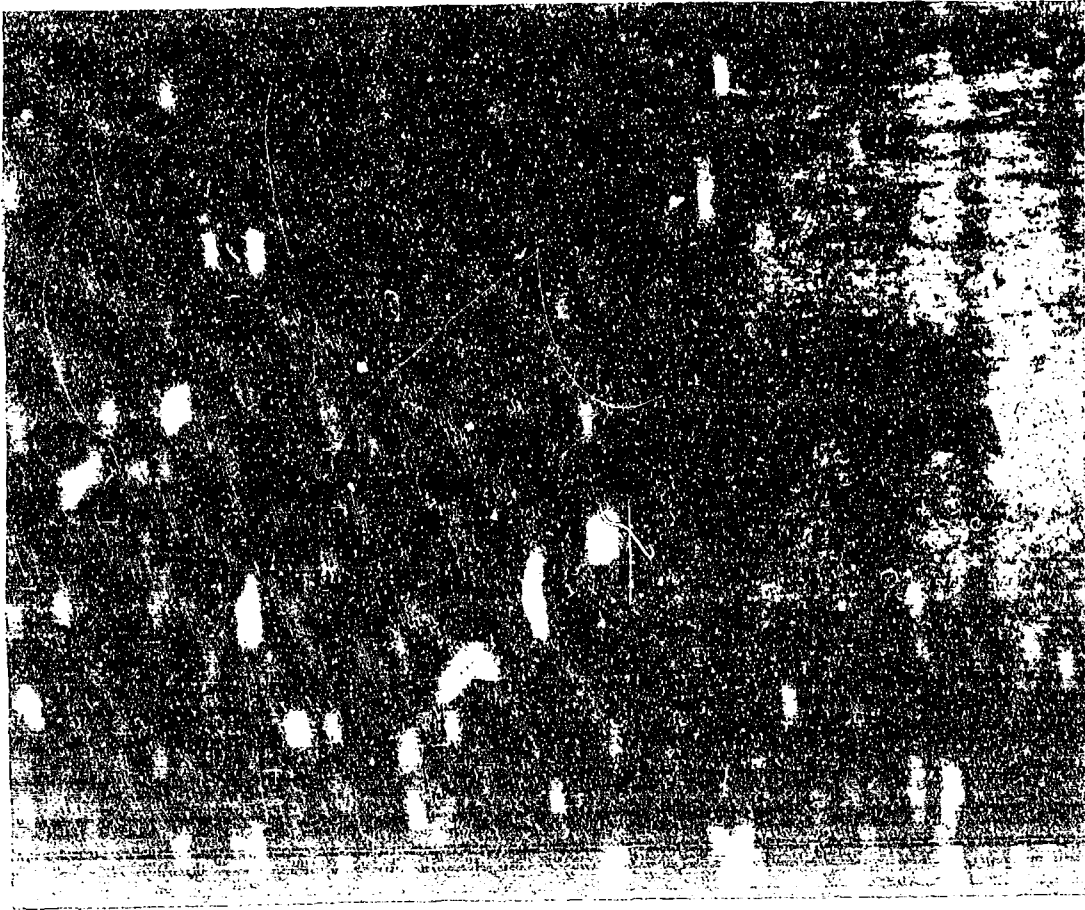
BA-CR-198-159-84: View from off port quarter before Test A.

SECRET

USS BANNER (APA60)

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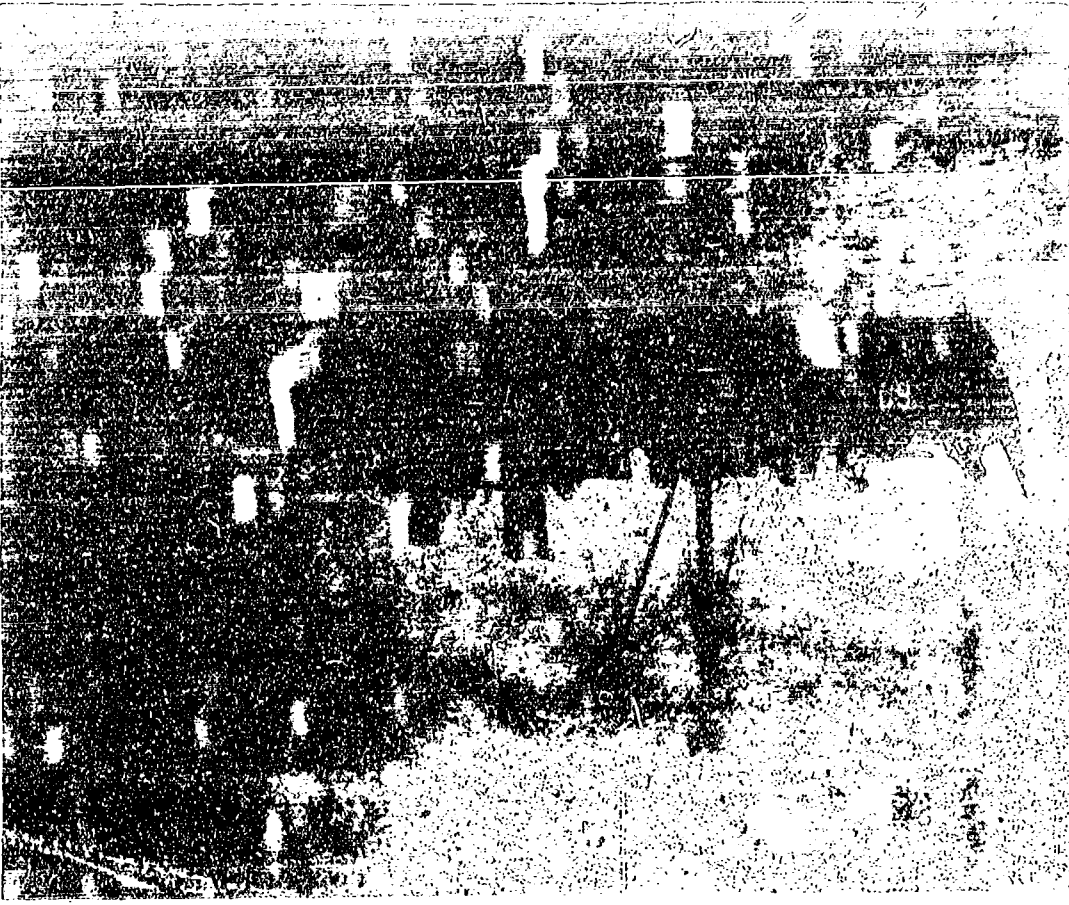
AA-CR-227-87-37. View from off port quarter after Test A.

SECRET

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USS BANNER (APA 60)

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BA-CR-198-159-40. View from off starboard quarter before Test A.

SECRET

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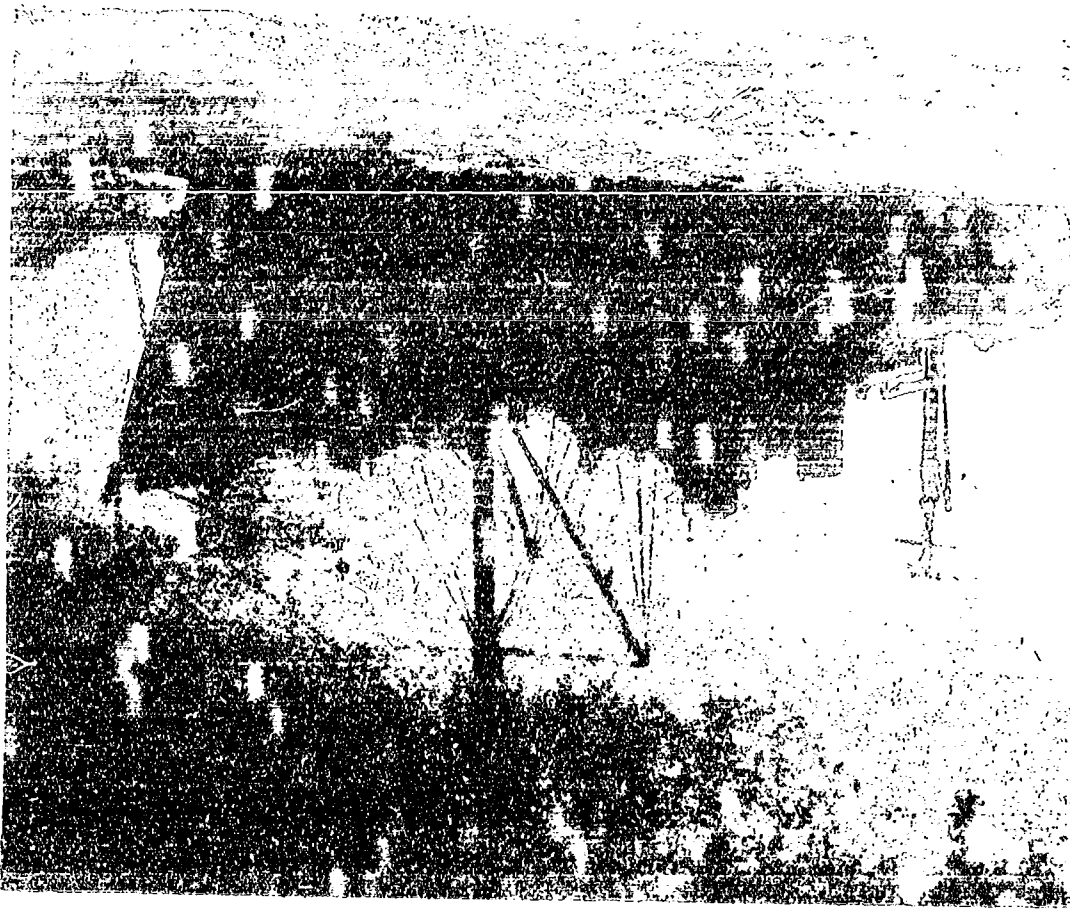
EA-CR-227-01-01. View from off starboard quarter after Test A.

USS BANNER (APA60)

0050

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SECRET



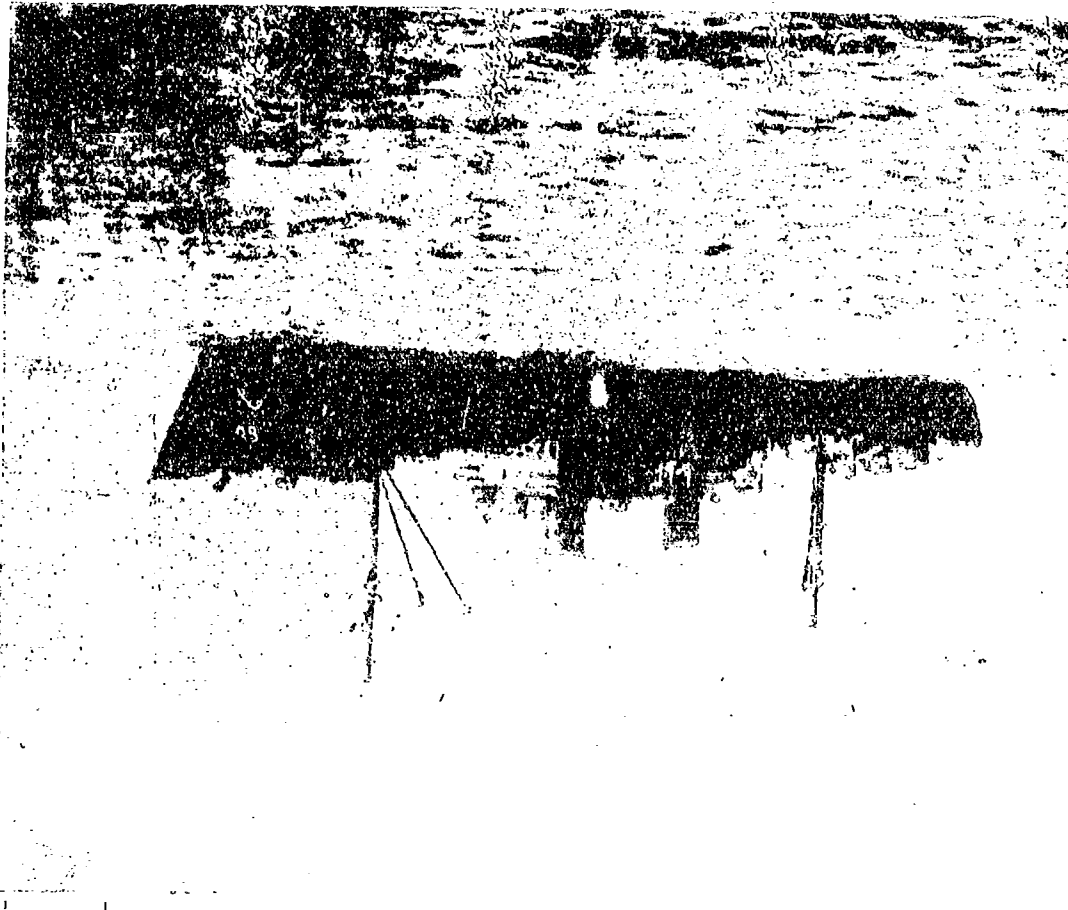
EA-CR-193-159-38. View from off starboard bow before Test A.

SECRET

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USS BANNER (APA60)

0050

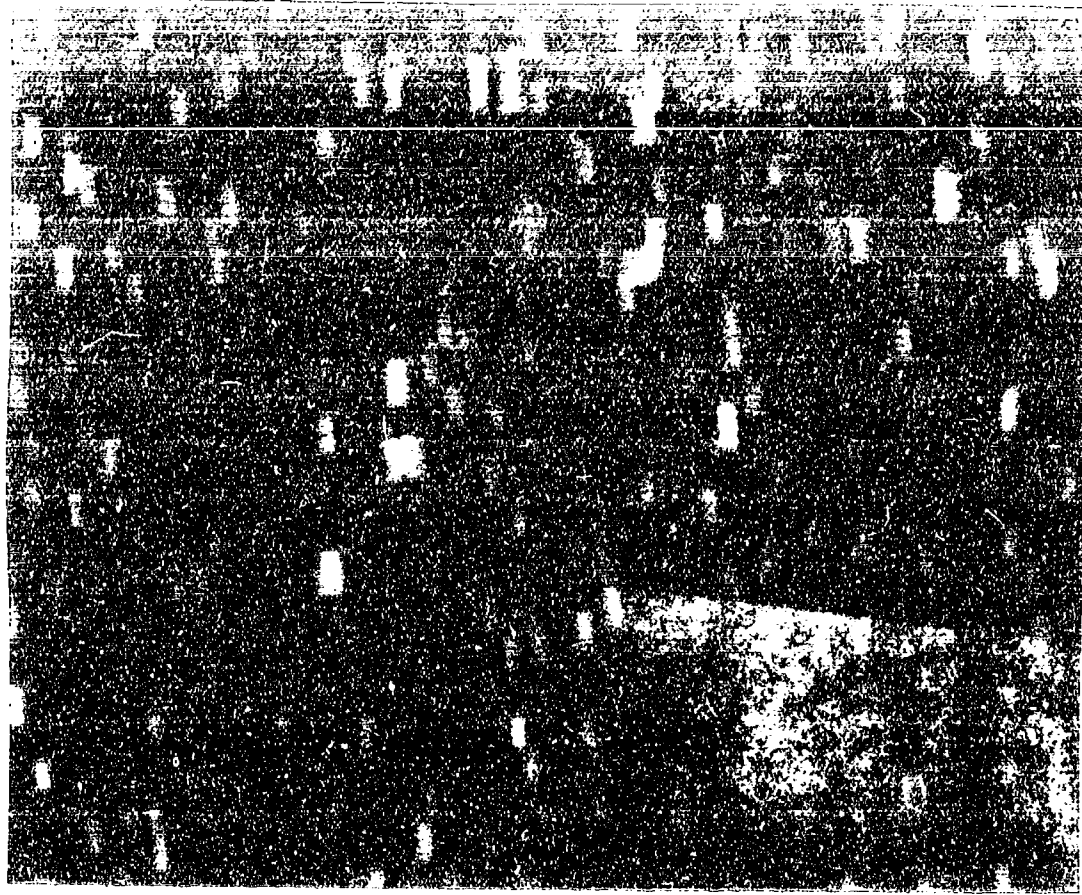


AA-CR-227-87-36. View from off starboard bow after Test A.

SECRET

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USS BANNER (APA-50)  
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AA-CR-65-1733-5. Starboard side of after stack shoving test damage.

SECRET

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USS BANNER (APA-60)  
8053





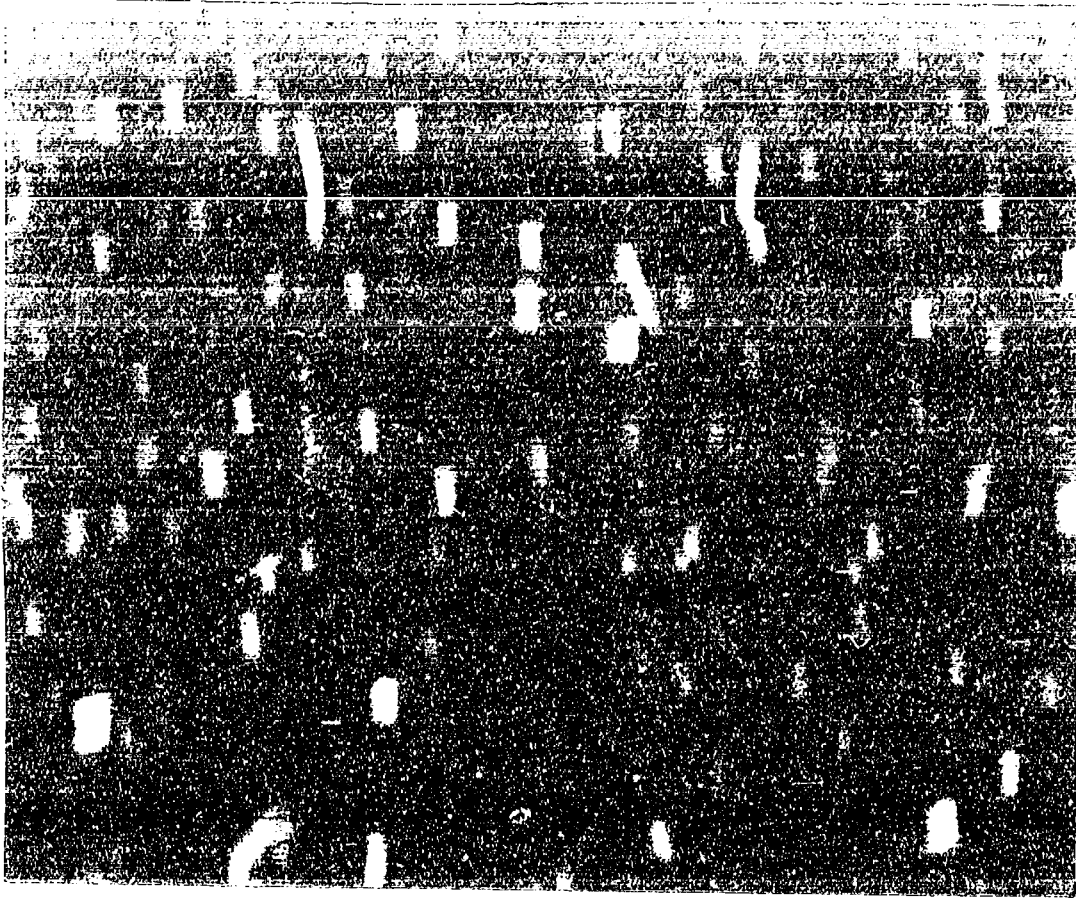
AA-CR-65-1733-4. Damage to signal shack on signal bridge.

SECRET

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USS BANNER (APA60)

8858



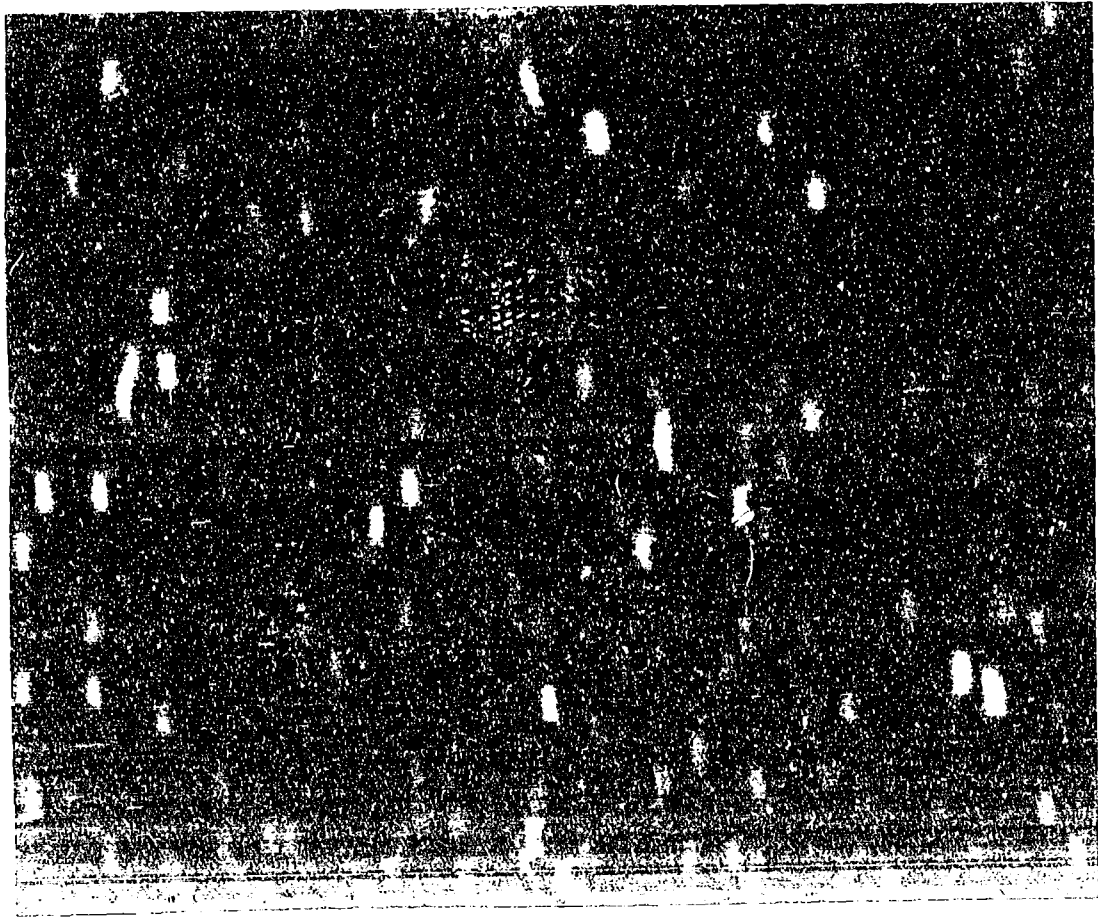
AA-CR-65-1733-1. Damage caused by fire in starboard flag bag.

SECRET

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USS BANNER (APA60)

8859

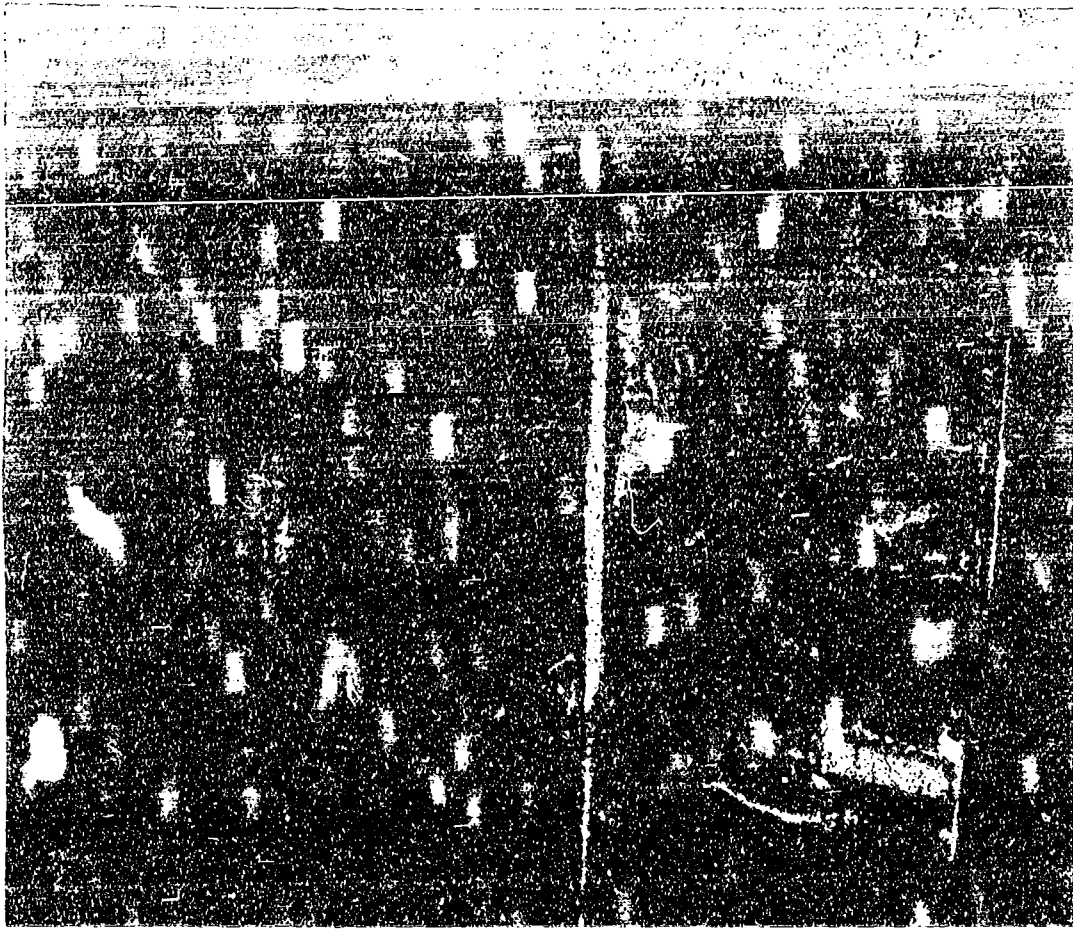


AA-CR-82-1829-11. Holes in pontoons of forward cargo hold.

SECRET

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USS BANNER (APA60)  
8858

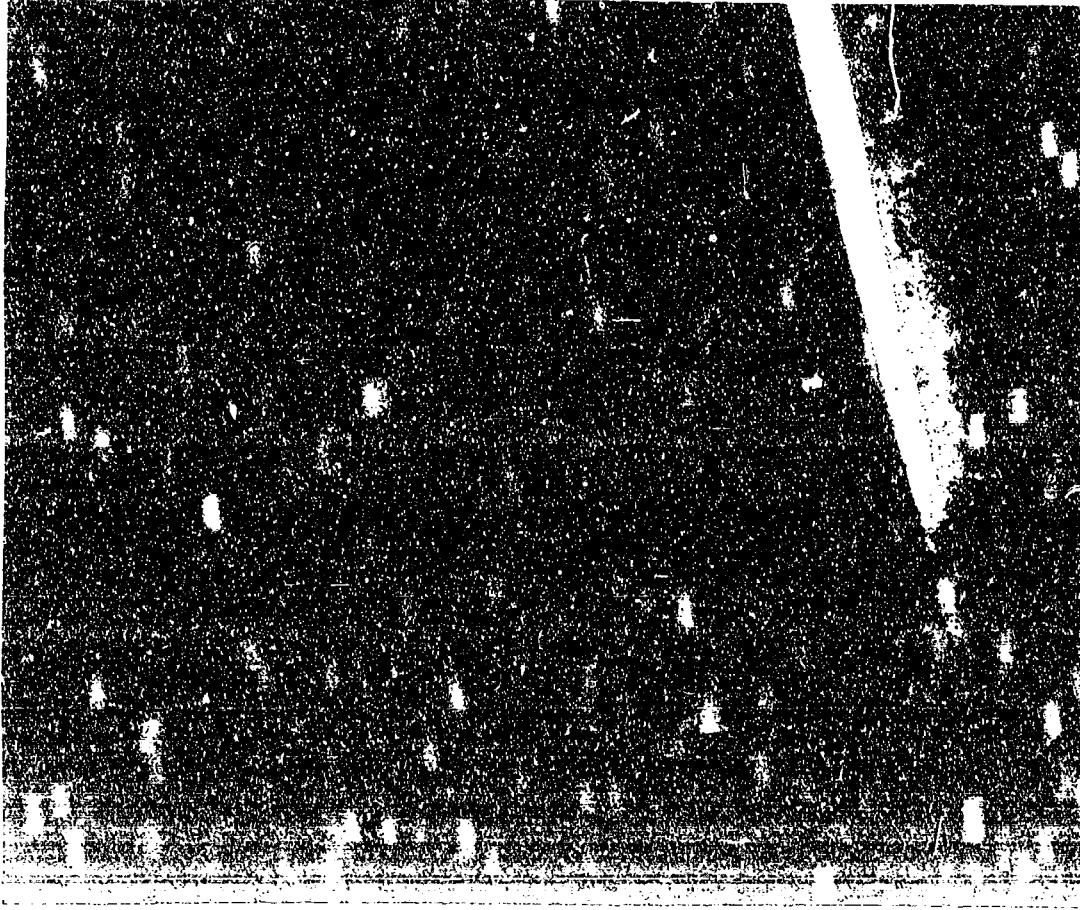


AA-CR-82-1830-1. Holes and dents in pontoons of after cargo hold.

SECRET

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USS BANNER (APA60)  
8853



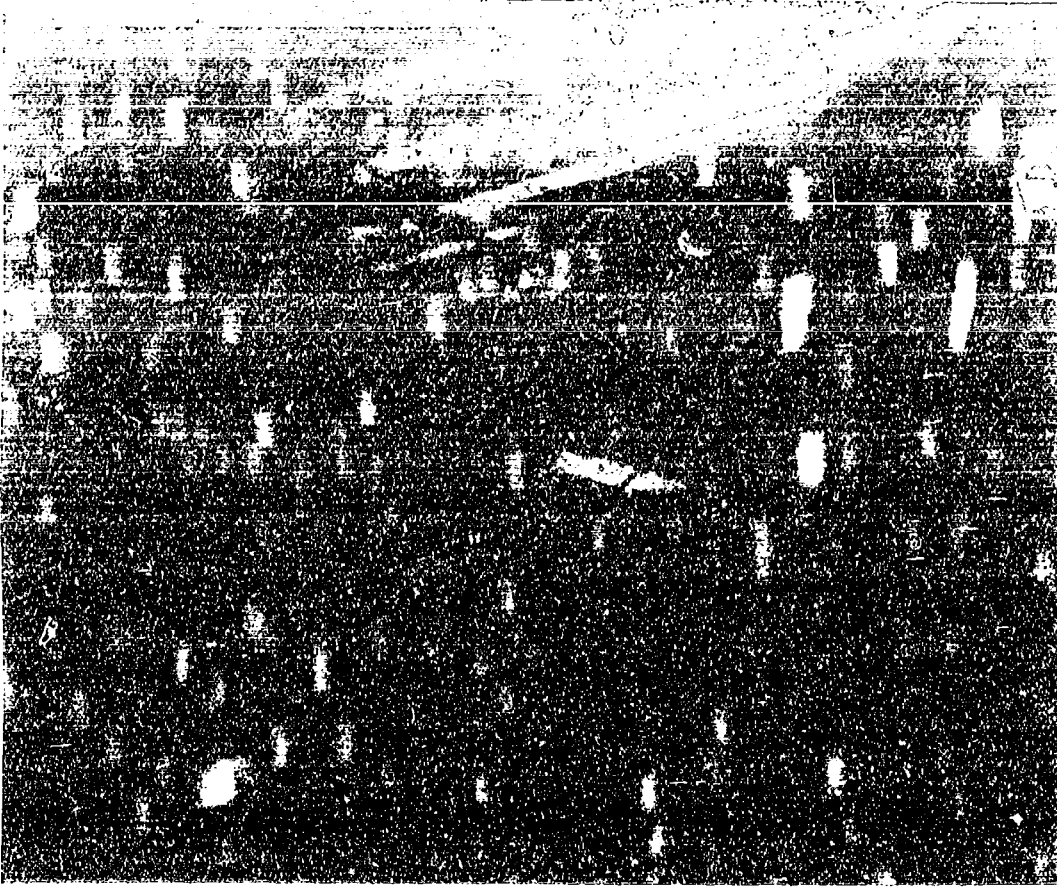
AA-CR-79-1814-10. Damage to lockers in forward hold on main deck.

SECRET

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USS BANNER (APA60)

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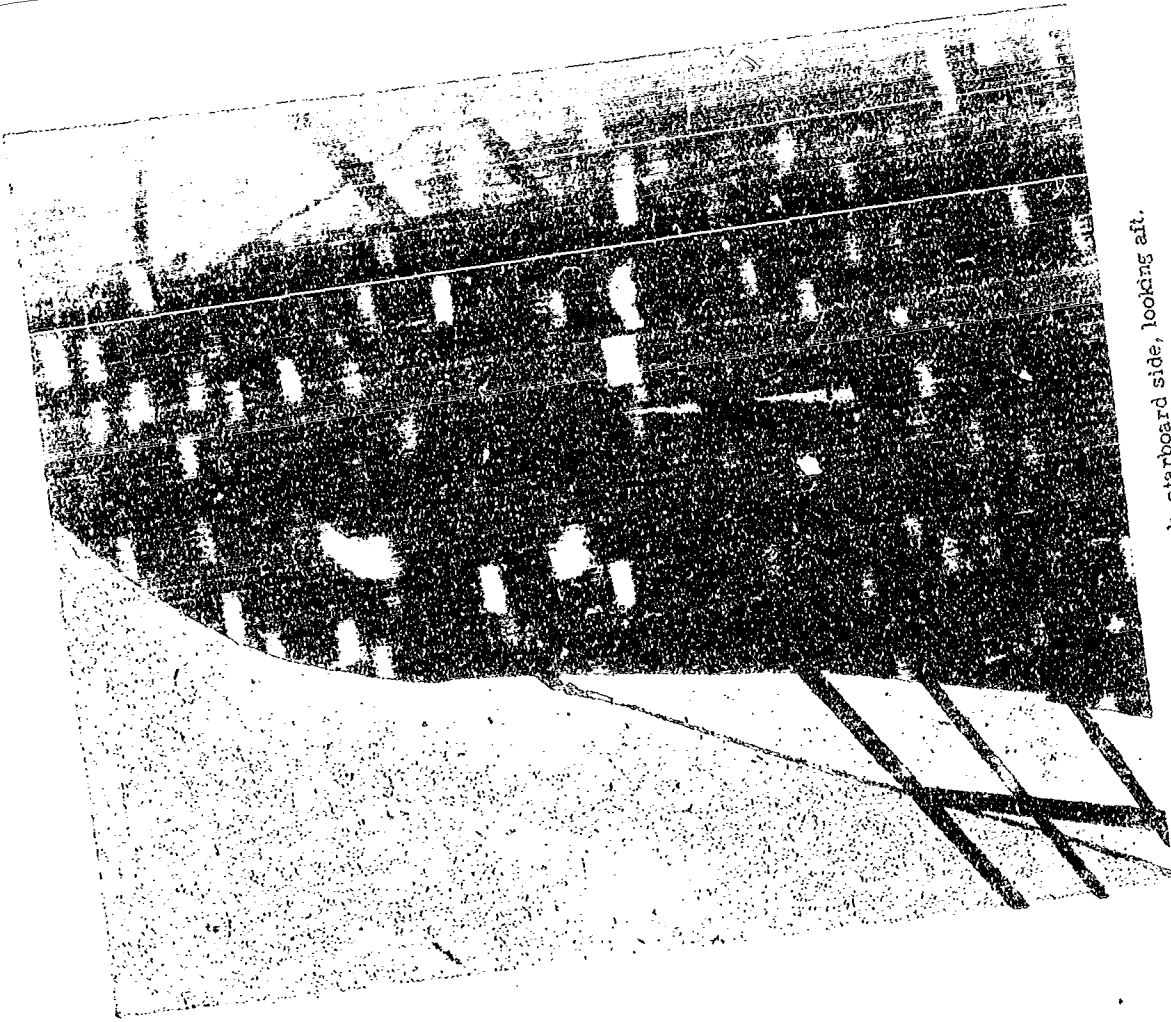
AA-CR-79-1814-11. Wreckage on main deck in forward hold.

SECRET

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USS BANNER (APA60)

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AA-CR-82-2189-7. After stack, starboard side, looking aft.

USS BANNER (APA60)  
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AA-CR-79-1814-8. Debris in after hold.

USS BANNER (APA60)  
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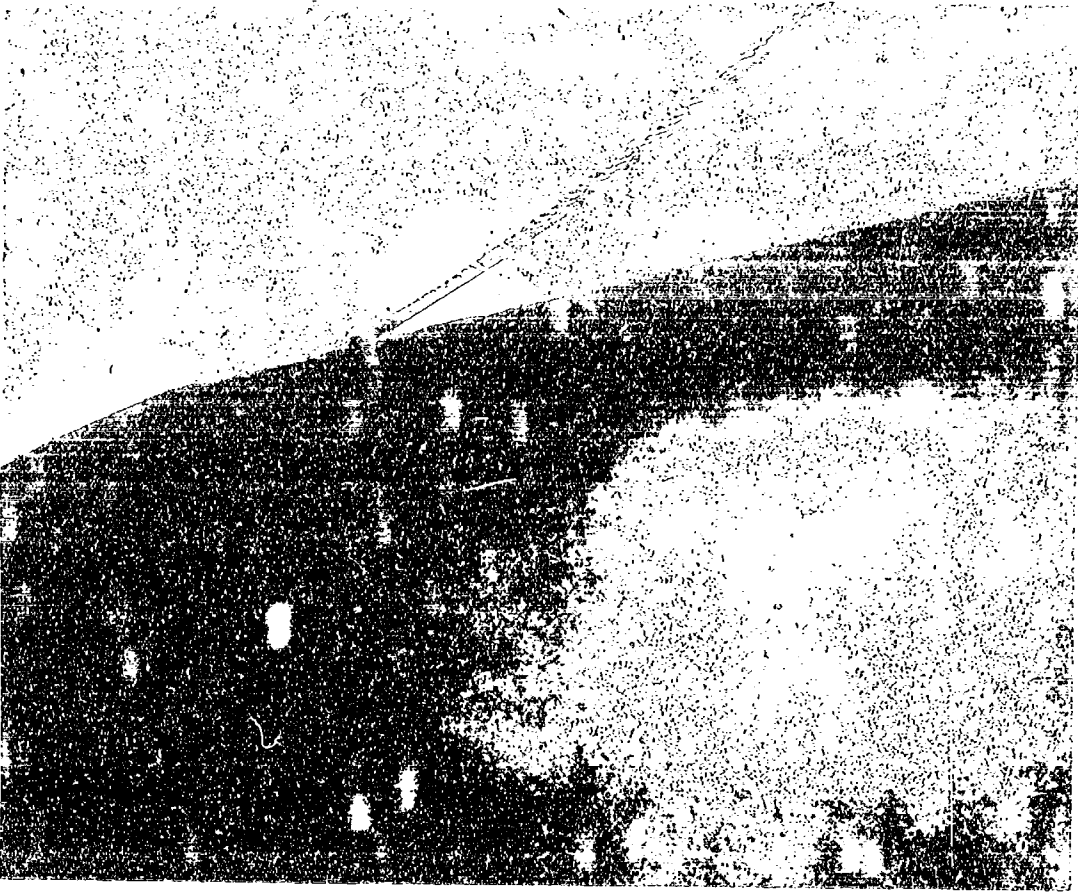
AA-CR-62-2169-8. After stack, starboard side, looking forward.

SECRET

USS BANNER (APA 60)

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AA-CR-62-2169-9. After stack, port side.

SECRET

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APPENDIX

SHIP MEASUREMENT DATA

TEST ABLE

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USS BANNER (APA60)

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2

# DECK DEFLECTION GAGES

TEST A

COMP USE PAPER (APA-00)

GAGE NO.	LOCATION	MANUFACTURER	GAGE	MANUFACTURE DATE	PERMANENT DISTANCE	EXP. DATE	SET DATE	REMARKS
101	FACE	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
102	"	SCS	None	None	None	None	None	None
103	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
104	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
105	"	SCS	None	None	None	None	None	None
106	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
107	"	SCS	None	None	None	None	None	None
108	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
109	"	SCS	None	None	None	None	None	None
110	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
111	"	SCS	None	None	None	None	None	None
112	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
113	"	SCS	None	None	None	None	None	None
114	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
115	"	SCS	None	None	None	None	None	None
116	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
117	"	SCS	None	None	None	None	None	None
118	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
119	"	SCS	None	None	None	None	None	None
120	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
121	"	SCS	None	None	None	None	None	None
122	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
123	"	SCS	None	None	None	None	None	None
124	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
125	"	SCS	None	None	None	None	None	None
126	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
127	"	SCS	None	None	None	None	None	None
128	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
129	"	SCS	None	None	None	None	None	None
130	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
131	"	SCS	None	None	None	None	None	None
132	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
133	"	SCS	None	None	None	None	None	None
134	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
135	"	SCS	None	None	None	None	None	None
136	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
137	"	SCS	None	None	None	None	None	None
138	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
139	"	SCS	None	None	None	None	None	None
140	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
141	"	SCS	None	None	None	None	None	None
142	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
143	"	SCS	None	None	None	None	None	None
144	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
145	"	SCS	None	None	None	None	None	None
146	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
147	"	SCS	None	None	None	None	None	None
148	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000
149	"	SCS	None	None	None	None	None	None
150	"	SCS	0-0-2/16	0-0-2/16	0-0-2/16	None	None	None to 1000

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# APPENDIX

## COMMANDED OFFICERS REPORT

### TEST ABLE

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## SECTION I

### PART A - GENERAL SUMMARY

#### I. Target Condition After Test

- (a) Draft after test - Forward: 8 feet 2 inches; Aft: 19 feet. List after test 2 degrees port. There was no flooding.
- (b) Damage to superstructure was negligible, and to the hull. The bulkheads in the vicinity of the holds were dented slightly. The hatch boards and their supporting structures covering the holds were knocked down into the holds. Some of the 100 lb. bombarding shells lying up the first platform decks in the holds were picked up and dropped into the very bottoms of the holds. The stacks were dented slightly. The inner bulkheads in the vicinity of the holds were distorted. A main of two weather tight and three watertight doors were dented in enough to make them ineffective. The bulkheads at frame 53, port and starboard, on the superstructure deck were bent.
- (c) There was very little damage to the machinery, electrical, ship control, fire control, gunnery or electronic equipment.
- (c) The starboard side, the stern, and most vertical sections exposed to the blast showed evidence of scorching. Only one small fire was started - the starboard flag bag on the signal bridge - which did little damage. It is estimated that all personnel topside, in the other engine room and in the berthing compartments in the vicinity of the holds would have been killed or made ineffective by the sudden increase in pressure or blast.

#### II. Forces Evidenced and Effects Noted

- (a) The heat from the blast struck the ship from a direction bearing of about 150 degrees. The entire starboard side and the parts of the ship facing aft were scorched slightly, just enough to blister the first layer of paint. There was some evidence of heat on other parts of the ship in the most exposed parts of the ship and signal bridge masts. The effects did not penetrate the hull nor bulkheads or equipment. There was nothing unusual in the behavior of structures or equipment.

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USS BANNER (APAG2)

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58 on the superstructure deck were bent by the blast and several welds on strengthening frames cracked.

(e) The after starboard part of the ship and the exposed parts of the superstructure and masts were coated with a thin film of black, greasy soot. An aluminum coffee pot about eighteen inches high and rather unstable was found still erect on a bench topside about fifteen feet from the plane on deck and the after hold and about five feet from a weather tight door that was dished in.

### III. Results of Test on Target.

(a) No effect.

(b) No effect.

(c) Three watertight doors were dished in and rendered ineffective.

(d) All personnel in exposed parts of the ship, in the after engine room and in the vicinity of the holds would have been killed or incapacitated for duty. Men in the wardroom, cabin's country, closed bridge, troop berthing spaces and forward engine room would probably have survived the blast. The pressure wave knocked out the thin joiner bulkhead separating the after hold from the entrance to the after engine room on the starboard side and exposed that space. Only evidence of the effect of the blast in the engine room was the shattering of glass and liquid pressure measuring instrument suspended in that space. It is assumed that the blast would have knocked out or killed the personnel in the after engine room. The galley was filled with soot but readily cleaned. The bunks knocked about half to the holds were useable. My conclusion is that the habitability of the ship was only slightly affected.

(e) The fighting efficiency of the ship would have been reduced only in proportion to the number of men rendered ineffective by the blast. Since all men topside would have had to have been replaced by less experienced personnel it is felt that the fighting efficiency of the ship would have been greatly reduced though the equipment was in no way damaged.

### IV. General Summary of Observers' Impressions and Conclusions.

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(f) Only one fire was started and no explosions. The fire was situated in the starboard wing bag and alongside the Beach Master An-400. The fire was started by a lightning bolt and burned itself out without causing any further damage. Cause of ignition appeared to be falling haywards that were burning.

(g) The direction of the shock is presumed to have come from 180° relative to the ship. The only evidence noted was the opening of hold doors and loose structure in the vicinity of the holds. This effect was probably caused by the roll of the ship rather than by shock. About twenty light bulbs were broken in the ship, mostly in the topside compartments and along the starboard side aft above the main deck. Bulbs in shock mounts were undisturbed. The shock effect was much less than that noted in a transverse after moderate depth charge.

(h) The pressure wave hit the ship from about 180° relative to the ship. There was slight evidence of a coming from a reverse direction. The ship rolled 25° to starboard and 19° to port. The after starboard side was topside, the holds and vicinity. Most of the light sheet metal structures topside were bent and all the wooden frames in the centers of the life rafts were damaged. All the haywards were torn up or burst off and pieces of the "YOKO" bag were found on deck. The instruments and meters were shattered. The weather tight and three watertight doors topside and aft and the stocks were dished slightly. The greatest damage was done to the holds and their immediate vicinity below deck. The hatch boards, 2' x 8' x 7', covering the holds were bent downward and were failed as much as 60°, and knocked onto the first platform deck with such force that they tore several holes about 8 inches by 12 inches in a steel plate. The large 1000 pound partitions forming the first and second platform decks were lifted up and dropped down into the bottom of the holds. The large "X" beam type strongbacks supporting the hatch boards forming the cover of the hold were skewed off on one side and knocked into the bottom of the holds. Joiner doors of aft and starboard in the vicinity of the holds were ripped off badly, shearing only the hinge screws. Light metal lockers and bulkheads in the area were ripped apart or bent. The damage appeared to be not penetrating the transverse blast pressure. Evidence of reverse pressure waves were the damage to the holdmen's shack on the signal bridge and the discovery of a main shaft of one tier of life rafts aft and above the main deck. The transverse wave operated and the pressure waves of one tier of life rafts on the starboard side of frame 38. The main deck was bent. The two bulkheads on either side of the ship at frame

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This ship is an attack transport with a primary mission of carrying troops and landing them at a designated spot. If the boats are damaged, they are damaged beyond repair facilities of the ship's force re- mission. Therefore, the ship could carry out its mission successfully. Damage to the holds and loss of after engine room force and personnel in the vicinity of the holds could have been avoided with improved construction of bulk covers over the holds and heavier metal protecting the entrance to the engine rooms. Except for the loss of personnel killed, the bomb, generally speaking, had little effect on the effectiveness of this ship.

#### 7. Preliminary Recommendations.

The damage to the hull was superficial. Frame structures and bulkheads must be made of heavier metal and reinforced in the strongly. The bulkheads covering the tops of the holds are too light and weak. They should be made much larger and stronger and firmly secured in place rather than just rested in their frames. The large 1000 pound portions forming the first platform and second platform decks appear to be heavy and strong. Although they must also be firmly anchored in place. The, were not fixed down but lifted up and dropped. Living spaces adjoining the holds should be constructed from the holds by heavy bulkheads and strong watertight doors. Changes to engineering spaces should be made by heavy flame proof doors. The holds should be closed on both the front of the ship by heavy watertight doors.

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#### SECTION I

#### PART C - INSPECTION REPORT

#### SECTION A - HULL

##### A. General Description of Hull Damage.

- (a) Excellent.
- (b) No hull damage.
- (c) No comment.
- (d) None.
- (e) Conditions as they were before the blast.

##### B. Superstructure (exclusive of gun mounts).

(a) No damage to bridge area. Halyards on signal bridge were burned and broken, starboard flag bag burned out, and signalmen's open deck house made of sheet metal badly bent but still usable. The two stacks were dished in slightly but nothing inside was damaged. Light metal structures bent and distorted.

(b) In all cases damage was caused by blast or pressure wave except in the case of the fire in the flag bag. This appeared to have been caused by falling halyards hat were burning.

(c) None except for starboard flag bag on signal bridge and the beach master set next to it and probably some signal halyards.

(d) No comment.

(e) The use of light sheet metal anywhere in the superstructure should be discontinued for any blast will bend or rupture it making it unusable as well as a personnel hazard.

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C. Gunwires, Guns and Directors.

- (a) Excellent, entirely operable. No comment.
- (b) No comment.
- (c) Operators flash shield distorted so as to prevent aircraft steno-scope range-finder. Excellent.
- (d) No comment.

D. Torpedo Mounts, Depth Charge Gear.

- (a) None installed.
- (b) None installed.

E. Weather Deck.

(a) The deck was intact. The only damage was to the covering over the two cargo holds. The tops of both holds were crushed in. The hatch boards 1' x 3" x 7' covering the holds were bent downward (some were folded as much as 90°) and knocked onto the first platform deck with such force that they tore several holes about 3" x 6" in fifteen pound plate. The large 1000 pound pontoons forming the first and second platform decks were lifted up and dropped down into the bottom of the holds. The large "H" beam type strongbacks supporting the hatch boards forming the cover of the holds were sheered off on one side and knocked into the bottom of the holds. The holds were also covered by three layers of canvas battered down. The holds were empty except for an aircraft in the bottom of No. 2 hold.

(b) The cover for the holds could not be repaired, but the large pontoons that made up the platform decks could be lifted back into place.

(c) No comment. The wooden frames forming the center of the life rafts were jarred a little out of place but did not impair the effectiveness of the rafts. The sheet metal guides for tiers of rafts were bent over the rafts and might interfere with their release. This could not be checked as this vessel carried only one raft in each tier. The pressure release on the raft starboard side at frame 88 was

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operated by the pressure wave and the raft released. No comment.

F. Exterior Hull Above Waterline.

- (a) Only scorched along starboard side by blast.
- (b) No damage.
- (c) No damage.
- (d) None installed.

G. Interior Compartments Above Waterline.

(a) Only damage was in vicinity of holds. The blast dished the bulkheads of the holds outward slightly.

(b) Joiner bulkheads in the immediate vicinity of the holds were bent or damaged in varying amounts depending on their proximity to the holds. The bulkheads of offices, made of light metal, which formed a passageway with the heavy bulkhead of the holds were bulged outward slightly, that is, bulged towards the hold.

(c) One watertight door in the vicinity of the holds and two on the main deck were dished in slightly by the blast, still operable but no longer effective. Two weatherlight doors in the superstructure were in the same condition. Several joiner doors were ripped out nearly and blown several feet down the passageways. These doors were all pulled out away from the compartments they closed as if sucked along by the blast. These doors were in good condition generally. Only the screws holding their hinges were pulled out or sheered off. Some doors in the same area were unaffected.

(d) In the holds, the living spaces adjoining actual holds were unprotected by any bulkheads. Here bunk frames were scattered about and their supporting stanchions bent. Lockers in this area were crushed or blown apart. In the other compartments protected by doors, only the doors or bulkheads were damaged. Rarely was any damage caused inside the compartments. The blast just ripped the doors out or bulged the bulkheads slightly.

- (e) None.

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(c) Only one station was found to be safe and free of serious damage.

(d) Damage to living quarters below involved the water-tight integrity. All damage in living spaces could be quickly repaired.

(e) Armor Deck (Not fitted).

No comment.

(f) Interior Compartments Below Waterline.

(a) No damage.

(b) No damage.

(c) No damage.

(d) Excellent and normal.

(e) None.

(f) None.

(g) None.

(h) Underwater Hull.

(i) Conditions normal.

(j) None.

(k) No damage.

(l) None ascertained.

(m) None.

(n) Conditions normal.

(o) None.

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(c) None.

(a) Flooding.

(b) None.

(c) None.

(d) None.

(e) Ventilation.

(a) Emergency diesel exhaust duct cover dented in slightly on upper deck all the way aft closest to center of ship.

(b) A large amount of greasy soot was found in the galley which was similar to that found topside which apparently entered compartment via exhaust in No. 2 stack.

(c) None.

(d) Strengthen exposed ducts and duct covers by using heavier reinforced metal. Install closure in galley exhaust through No. 2 stack.

(e) Ship Control.

(a) None to parts 1 through 5.

(b) None.

(c) Fire Control.

(d) None.

(e) All stations are exposed on this ship. It is felt that the blast would have incapacitated all men at their stations topside thus leaving the ship unable to man its guns until the crews could be replaced.

(f) I consider the locations of the various stations satisfactory, but a blast proof cover, if practical should be installed to protect the operators.

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# Ammunition Behavior.

(a) Ready service ammunition lockers located throughout the ship in accordance with approved design. No damage to any ammunition through one five inch ready box, all the way aft on the upper deck, but the door closed in slightly. Exterior of lockers were scuffed but no evidence of heat round inside.

(b) Magazines located below decks in accordance with approved design and undamaged.

(c) No comment.

(d) No comment.

## Ammunition Handling.

(a) Conditions normal.

(b) None.

(c) None.

## Strength.

None.

## Miscellaneous.

None.

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# SECTION I

## PART C - INSPECTION REPORT

### SECTION B - MACHINERY

#### A. General Description of Machinery Damage.

None.

#### B. Boilers.

No comment.

#### C. Blowers.

No comment.

#### D. Fuel Oil Equipment.

No comment.

#### E. Boiler Feedwater Equipment.

No comment.

#### F. Main Turbines.

No comment.

#### G. Reduction Gears.

No comment.

#### H. Shafting and Bearings

No comment.

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1. Lurification System.

No comment.

2. Motors and Air Systems.

No comment.

3. Pumps.

No comment.

4. Auxiliary Components (Pumps and Gears).

No comment.

5. Propellers.

No comment.

6. Steering Plant.

No comment.

7. Refrigerating Plant.

No comment.

8. Winches, Windlasses and Capstans.

No comment.

9. Steering Engine.

No comment.

10. Motors, Ammunition Hoists, Etc.

No comment.

11. Ventilation (Exhaust).

No comment.

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12. Air Compressors.

No comment.

13. Diesels (Generators and Pumps).

No comment.

14. Piping.

No comment.

15. Miscellaneous.

No comment.

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SECTION 1  
PART C - INSPECTION REPORT  
SECTION C - ELECTRICAL

A. General Description of Electrical Damage.  
1. Overall condition.

All the electrical equipment was in excellent shape showing no effects of the blast whatsoever. No comment.

B. Electric Propulsion Rotating Equipment.  
No comment.

C. Electric Propulsion Control Equipment.  
No comment.

D. Generators - Ship's Service.  
No comment.

E. Generators - Emergency.  
No comment.

F. Switchboards, Distribution and Transfer Panels.  
No comment.

G. Wiring, Wiring Equipment and Wireways.  
No comment.

H. Transformers.  
No comment.

I. Submarine Propelling Batteries.  
No comment.

J. Portable Batteries.  
Not installed.

K. Motors, Motor Generator Sets, and Controllers.  
No comment.

L. Lighting Equipment.  
(a) - (e) No comment.

(f) About 70 light bulbs shattered, all in torpedo compartments.

M. Searchlights.  
No comment. One port 12" light extinguish and inoperative. One port 12" light broken and base fused loose.

N. Degaussing Equipment.  
No comment.

O. Gyro Compass Equipment.  
No comment.

P. Sound Powered Telephones.  
No comment.

Q. Ship's Service Telephones.  
Not installed.

R. Announcing System.  
No comment.

No comment.

5. Telegraphy.

No comment.

7. Indicating Systems.

No comment.

U. I. C. and A. C. O. Switchboards.

No comment.

V. F. C. Switchboards.

No comment.

## SECTION I

### PART C - INSPECTION REPORT

#### SECTION D - ELECTRONICS

##### A. General Description of Electronics Damage.

(a) Excellent.

(b) None

(c) No comment.

(d) 1. Excellent.

2. Insulators on four antennas shattered.

3. None installed.

4. None installed.

5. No comment.

##### B. Fire Control Radar.

No comment.

##### C. Surface Search Radar.

No comment.

##### D. Air Search Radar.

No comment.

##### E. Radar Repeaters.

No comment.

##### F. Radar Counter Measures Equipment.

No comment.

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- G. Radar and Radio Beacons.  
No comment.
- H. IFF Equipment.  
No comment.
- I. Communication Transmitters (Radio).  
No comment.
- J. Communication Receivers (Radio).  
No comment.
- K. Communication Antennae (Radio).  
No comment.
- L. Radio Transceivers.  
No comment.
- M. Sonar Echo Ranging and Listening Equipment.  
No comment.
- N. Sonar Echo Sounding Equipment and Altimeters.  
No comment.
- O. Loren Navigation Equipment.  
No comment.
- P. Power Supplies (Motor Generators and Filters).  
No comment.
- Q. Not applicable.

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- R. Test Equipment.  
No comment.
- S. Instrumentation.  
No comment.
- T. Telephone Equipment.  
No comment.
- U. Direction Finders (Radio).  
No comment.
- V. Spare Parts.  
No comment.

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**Defense Special Weapons Agency**  
6801 Telegraph Road  
Alexandria, Virginia 22310-3398

TRC

9 April 1997

MEMORANDUM FOR DEFENSE TECHNICAL INFORMATION CENTER  
ATTENTION: OMI/Mr. William Bush

SUBJECT: Declassification of Reports

The Defense Special Weapons Agency (formerly Defense Nuclear Agency) Security Office has reviewed and declassified the following reports:

*+ ST-A*

AD-366748 -	XRD-65
AD-366747 ~	XRD-64
AD-366746 /	XRD-63
AD-376826 ~	XRD-60
AD-376824 ~	XRD-58
AD-376825 -	XRD-59
AD-376823 -	XRD-57
AD-376822 -	XRD-56
AD-376821 ~	XRD-55
AD-366743 ~	XRD-54
AD-376820 ~	XRD-53
AD-366742 ~	XRD-52
AD-366741 ~	XRD-51
AD-366740 -	XRD-50-Volume-2
AD-366739 -	XRD-49-Volume-1
AD-366738 -	XRD-48
AD-366737 /	XRD-47

TRC

9 April 1997

SUBJECT: Declassification of Reports

AD-366736 -	XRD-46
AD-366735 -	XRD-45
AD-366723 -	XRD-37
AD-366721 -	XRD-35
AD-366717 -	XRD-31-Volume-2
AD-366716 -	XRD-30-Volume-1
AD-366751 -	XRD-68-Volume-2
AD-366750 -	XRD-67-Volume-1
AD-366752 -	XRD-69
AD-366744 -	XRD-61.

All of the cited reports are now **approved for public release**. Distribution statement "A" now applies.

*Arndith Jarrett*  
ARDITH JARRETT  
Chief, Technical Resource Center

*Completed*  
*1 mar 2000*  
*B.W.*